

LIQUID-LEVEL SENSOR HAVING MULTIPLE SOLID
OPTICAL CONDUCTORS WITH SURFACE DISCONTINUITIES

ABSTRACT OF THE DISCLOSURE

A liquid-level sensor is used to sense the level of a liquid which may be
5 present within a volume to different heights above the bottom of the volume. The
sensor has at least two solid optical conductors, wherein each solid optical
conductor includes an outer surface having at least one reflective surface
discontinuity of sufficient size to interfere with a total internal reflection of the
solid optical conductor when the reflective surface discontinuity does not contact
10 the liquid. A support positions the reflective surface discontinuity of each of the
at least two solid optical conductors at a location corresponding to a different
height above the bottom of the volume. A light source introduces light into a first
end of each of the solid optical conductors. A light detector structure receives
light that has been introduced into each of the solid optical conductors and has
15 traveled through the respective solid optical conductor at least as far as at least one
of the reflective surface discontinuities of the respective solid optical conductor.
The light detector structure may be a non-electrical light diffuser positioned so
that a second end of each of the solid optical conductors directs a respective
output beam onto a respective region of the light diffuser, with each of the
20 respective regions having a visual indication thereon of being illuminated by its
respective output beam.

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